APPENDIX A

Case Study Number	Project and Stream	Approx. Completion Date (Date of ISF Reservation)	Sponsor	Permit Agency	Principal Fish Pre-Project*	RESERVED INSTREAM FLOW Normal Year / Dry Year Nov	Feb	May	Aug	PRE-PROJECT Flow = Mean Monthly Index = ISF Reservation/Mean Monthly Pre-Project Flow Normal Year / Dry Year Nov Flow	Nov Index	Feb Flow	Feb Index	May Flow	May Index	Aug Flow	Aug Index	POST-PROJECT Flow = Mean Monthly Index = Post-Project Flow/ Pre-Project Flow Normal Year / Dry Year Nov Flow	Nov Index	Feb Flow	Feb Index	May Flow	May Index	Aug Flow	Aug Index	HISTORICAL CONDITIONS Post-Project Flows / ISF Reservations Normal Year / Dry Year Nov	Feb	May	Aug	Index to Public Concern
	REGION 1																													
1	Iron Gate, Klamath River	1960 (1958)	Pacific Power & Light	SWRCB FPC	KS,SH	1,300	1,300	1,000	1,000	1,500 1,400	0.9 0.9	1,500 .500	0.9 2.6	1,400 400	0.7 2.5	1,200 300	0.83 3.3	2,400 2,350	1.6 1.7	3,250 1,800	2.3 3.6	2,000 1,000	1.4 2.5	763 800	0.6 2.7	1.8 1.8	1.8 1.4	2.0 1.0	0.721 0.80	4.28
2	Shasta-Keswick, Sacramento River	1949 (1972)	USBR	FPC SWRCB	KS,SH, OGS	3,900 2,800	2,600 2,300	2,300 2,000	2,300 2,000	5,000 3,500	0.8 0.8	14,000 6,000	0.2 0.4	8,000 3,000	0.3 0.8	4,000 3,000	0.6 0.7	8,500 6,500	1.7 1.9	12,000 7,000	0.9 1.2	11,000 10,000	1.8 3.3	9,000 8,000	2.2 2.7	2.2 2.3	4.6 3.0	4.8 5.0	3.5 4.0	3.89
4	Trinity-Lewiston, Trinity River	1963 (1959)	USBR	FPC SWRCB	KS,SH	250	150	150	150	900 250	0.3 1.0	2,300 1,400	<0.1 0.1	3,800 500	<0.1 0.3	250 50	0.6 3.0	240 225	0.3 0.9	250 150	0.1 0.1	550 150	0.2 0.3	160 150	0.6 3.0	1.0 0.9	1.6 1.0	3.7 1.0	1.0 1.0	2.53
6	Ruth, Mad River	1961 (1955)	Humboldt Bay MWD	SWRCB	SS,SH	75	75	75	40	200 150	0.4 0.5	1,300 290	0.1 0.3	250 250	0.3 0.3	20 5	2.0 8.0	175 50	0.9 0.3	700 450	0.5 1.6	130 70	0.5 0.3	70 20	3.5 4.0	2.3 0.7	9.3 6.0	1.7 0.9	1.8 0.5	2.99
71 & 72	Pit 6, 7, Pit River	1965 (1961)	PG&E	FPC SWRCB	T	150	150	150	150	2,750 2,500	<0.1 <0.1	5,200 3,500	<0.1 <0.1	4,000 2,250	<0.1 <0.1	2,100 3,000	<0.1 <0.1	3,700 2,800	1.3 1.1	7,500 4,300	1.4 1.2	5,500 4,000	1.4 1.8	3,100 2,600	1.5 1.3	24.7 18.7	50.0 28.7	36.7 26.7	20.6 17.3	0.90
	REGION 2																													
8	Antelope Valley Dam, Indian Creek	1964 (1962)	Dept. of Water Resources	SWRCB	T	5	10	15	5	20	0.3	200	0.1	240	0.1	8	0.6	8 8	0.4	40 10	0.4	590 30	2.5	50 8	6.3	1.6 1.6	4.0 1.0	39.3 2.0	10.0 1.6	1.30
10	Rock Creek Diversion, NF Feather River	1950 (1950)	PG&E	FPC SWRCB	T	50 50	50 50	100 50	100 50									60		65		110		100		1.2	1.3	1.1	1.0	0.84
26	French Meadows Dam, NF American River	1964 (1962)	Placer County Water Agency	FPC SWRCB	T	8 4	8 4	8 4	8 4	10 5	0.8 0.8	100 40	0.1 0.1	600 300	<0.1 <0.1	10 5	0.8 0.8	25 10	2.5 2.0	15 10	0.2 0.3	113 5	0.2 <0.1	10 5	1.0 1.0	3.1 2.5	1.9 2.5	14.1 1.3	1.3 1.3	1.55
27	Hell Hole Dam, Rubicon River	1963 (1962)	Placer County Water Agency	FPC SWRCB	T	14 8	20 6	20 8	10 8	200 100	0.1 0.1	700 150	<0.1 0.1	2,905 900	<0.1 <0.1	50 10	0.2 0.8	15 10	0.1 0.1	20 20	<0.1 0.1	30 25	<0.1 <0.1	10 10	0.3 1.0	1.1 1.3	1.0 3.3	1.5 3.1	1.0 1.3	1.97
28	Loon Lake Dam, Gerle Creek	1963 (1962)	SMUD	FPC SWRCB	T	8	8	8	8	10 10	0.8 0.8	20 10	0.4 0.8	85 10	0.1 0.8	25 10	0.3 0.8	100 10	10.0 1.0	650 10	32.5 1.0	800 10	9.4 1.0	150 10	6.0 1.0	12.5 1.3	81.3 1.3	100.0 1.3	18.8 1.3	0.90
35	Salt Springs Reservoir, NF Mokelumne River	1931 (1947)	PG&E	FPC	T	5 5	5 5	10 5	10 5	120 40	<0.1 0.1	220 100	<0.1 0.1	1,300 1,000	<0.1 <0.1	100 90	0.1 0.1	50 15	0.4 0.4	80 15	0.4 0.2	750 15	0.6 <0.1	50 15	0.5 0.2	10.0 3.0	16.0 3.0	150.0 3.0	5.0 3.0	1.67
36	Spicer Meadow Dam, [illegible]	1929	PG&E	FPC	T	2[1]	2	2	2									10 2		70 50		496 200		30 25		5.0 1.0	35.0 25.0	248.0 100.0	15.0 12.5	1.30
[redacted]																														

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41	Sand Bar Diversion Dam, MF Stanislaus River	1939 (1955)	PG&E	FPC SWRCB	T	10 10	10 10	15 10	15 10	150 150	0.1 0.1	350 150	<0.1 0.1	2,003 600	<0.1 <0.1	300 200	0.1 0.1	75 100	0.5 0.7	200 10	0.6 0.1	1,000 15	0.5 0.1	50 15	0.2 0.1	7.5 10.0	20.0 1.0	66.7 1.5	3.3 1.5	0.77
75	Lake Tahoe Dam, Truckee River	1913 (1954)	USBR	FPC SWRCB	T	50	50	50	50	250 190	0.2 0.3	80 30	0.6 1.7	0 0	— —	419 290	0.1 0.2	200 100	0.8 0.5	474 505	5.9 16.8	200 50	— —	300 75	0.7 0.3	4.0 2.0	9.5 10.1	4.0 1.0	— —	2.84
67A	Oroville Dam below Thermalito Diversion Dam, Feather River	1968 (1967)	DWR	FPC	KS,SH, OGS	400	400	400	400	3,100	0.13	7,600	0.05	7,600	0.05	250	1.6	607	0.195	1,665	0.22	402	0.53	346	1.38	1.52	4.16	1.01	0.87	4.87
	Oroville Dam below Thermalito Afterbay, Feather River	1968 (1967)	DWR	FPC SWRCB	KS,SH, OGS	1,700 1,200	1,700 1,200	1,000 1,000	1,000 1,000	3,100 3,000	0.55 0.40	7,600 2,000	0.22 0.60	7,600 4,300	0.13 0.23	250 50	4.0 20.0	4,000 3,000	1.29 1.00	8,000 4,100	1.05 0.48	4,500 2,000	0.59 0.47	3,800 3,500	15.2 70.0	2.35 2.50	4.70 3.42	4.50 2.00	3.80 3.50	4.87
32, 33	Folsom-Nimbus, American River	1956 (1972)	USBR	SWRCB	KS,SH, OGS	1,250	1,250	1,250	800	1,400 500	0.89 2.50	5,900 2,000	0.21 0.63	7,500 1,400	0.16 0.89	750 0	1.06 0	2,400 2,000	1.71 4.00	7,000 1,800	1.18 0.90	4,100 1,000	0.54 0.71	3,000 2,800	4.0 0	1.92 1.60	5.60 1.44	3.28 0.08	3.75 3.50	5.87
68	Black Butte, Stony Creek	1962	USCOE	SWRCB	KS,SH	[2]				300 100		1,580 350		600 425		350 100		75 75	0.25 0.21	1,150 50	0.72 0.12	675 400	1.12 0.94	500 380	1.43 3.8					1.07
	REGION 3																													
37	Nicasio Dam, Nicasio Creek	1961 (1960)	Marin MWD	SWRCB	SS,SH	14 10	14 10	[3]		40	0.4	120	0.1	5		0		3	0.1	70	0.6	2	0.4	2		0.2	5.0			1.70
38	Lagunitas Dam, Lagunitas Creek	1954 (1954)	Marin MWD	SWRCB	SS,SH	[4]																								1.9
13	Scott Dam, Main stem Eel River	1921	PG&E	FPC SWRCB	SH	[5]				250		1,300		100		10		300 200	1.2	1,649 75	1.3	300 75	3.0	200 75	20.0					2.2
14	Cape Horn Dam, Main stem Eel River	1907	PG&E	FPC SWRCB	KS,SH	[6]				250 100		1,300 300		100 80		10 5		20 10	0.1 0.1	1,744 1,600	1.3 5.3	400 10	4.0 0.1	20 10	2.0 2.0					1.1
15	Coyote Valley Dam, EF Russian River	1958 (1959)	USCOE	SWRCB	KS,SH, SS,OGS	150	150	150	150	300 300	0.5 0.5	650 400	0.2 0.4	330 300	0.5 0.5	200 200	0.8 0.8	260 250	0.9 0.8	550 400	0.8 1.0	220 200	0.7 0.7	300 290	1.5 1.5	1.7 1.7	3.7 2.7	1.5 1.3	2.0 1.9	3.2

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59	San Pedro Creek Diversion, San Pedro Creek	1973 (1967)	North Coast County Water District	SWRCB	SH,SS	0.15	0.15	0.15	0.15							1.0	0.15													1.8
79	Nacimiento Reservoir, Nacimiento River	1957	Monterey County FCWCD		T,SH	[7]																								1.9
81	Thelma Adair Keyes, Butano Creek	1967 (1962)	Thelma Adair Keyes	SWRCB	SS,SH	2.5	3.0	3.0	2.5	1.05	2.38	64.2	4.67	1.77	8.80	0.1	25.0													1.7
86	Whale Rock, Old Creek	1960	DWR	SWRCB	SH	[8]				4.0 0		78.0 0		4.0 4.0																0
	REGION 4																													
64	Pine Flat, Kings River	1954 (1964)	USCOE	SWRCB	T	50[9] 60[10] 70[11] 75[12]	50 50 50 50	50 60 70 75	50 60 70 75	750[9] [10] [11] [12] 300[9] [10] [11] [12]	0.06 0.08 0.09 0.10 0.16 0.2 0.23 0.25	1,300 600	0.03 0.03 0.03 0.03 0.08 0.08 0.08 0.08	6,502 2,700	0.007 0.009 0.01 0.01 0.018 0.02 0.02 0.02	1,500 550	0.03 0.04 0.04 0.05 0.09 0.10 0.12 0.13	200 100	0.26 0.30	600 600	0.46 1.0	4,038 1,500	0.6 0.5	3,000 1,000	2.0 1.8	4.0 3.3 2.8 2.6 2.0 1.6 1.4 1.3	12.0 12.0 12.0 12.0 12.0 12.0 12.0 12.0	80.76 67.3 57.6 53.8 30.0 25.0 21.4 20.0	60.0 50.0 42.8 40.0 20.0 16.6 14.2	2.82
73	Isabella Reservoir, Kern River	1954	USCOE	SWRCB FPC	T	[13]				350 200		650 250		3,026 750		800 200		500 200	1.4 1.0	600 300	0.9 1.2	1,500 500	0.5 0.7	2,000 500	2.5 2.5					2.15
63	Friant Dam, San Joaquin River	1947	USBR	SWRCB	KS,SH, OGS	[14]				1,000 1,100		2,000 450		5,100 1,600		1,850 600		50 40	0.1 <0.1	1,000 40	0.5 0.1	1,634 50	0.3 <0.1	110 110	0.1 0.2					0.76
54	New Exchequer Dam, Merced River	1967 (1961)	Merced Irrigation District	SWRCB FPC	KS,SH, OGS	200	200	100	100	250 200	0.8 1.0	1,300 300	0.2 0.7	4,363 1,500	<0.1 0.1	400 50	0.3 2.0	400 250	1.6 1.3	1,300 500	1.0 1.7	2,150 1,000	0.5 0.7	1,850 1,500	4.6 30.0	2.0 1.3	6.5 2.5	21.5 10.0	18.5 15.0	1.65
50A	Goodwin Dam, Stanislaus River	1914 (1960)	Oakdale-San Joaquin Water District	SWRCB FPC	KS,SH, OGS	200[15] 150	125 100	125 100	100 50	350 200		2,400 800		5,664 2,250		1,000 250		200 30	0.6 0.2	1,050 0	0.4 0	1,690 15	0.2 <0.1	30 0	<0.1 0					1.53
47	Hetch-Hetchy Reservoir, Tuolumne River	1923 (1958)	City of San Francisco	Raker Act	T	35 35	35 35	75 35	75 35	100 50	0.4 0.7	250 100	0.1 0.4	3,500 2,400	<0.1 <0.1	300 150	0.3 0.2	50 35	0.5 0.7	75 110	0.3 1.1	1,700 75	0.5 <0.1	100 75	0.3 0.5	1.4 1.0	2.1 3.1	22.7 2.1	1.3 2.1	2.71
52	New Don Pedro Dam, Tuolumne River	1971 (1964)	Turlock Modesto Irrigation District	FPC	KS,SH, OGS	385 200	280 135	3 3	3 3	700 700	0.6 0.3	2,300 700	0.1 0.2	7,594 4,000	<0.1 <0.1	1,500 20	<0.1 0.2	600	0.9	1,000	0.4	1,900	0.3	2,400	1.6	1.6	3.6	633.3	800	1.84

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55	Snelling, Merced River, Crocker Huffman Dam	[16]	Merced Irrigation District	SWRCB	KS,SH, OGS	100 75	75 60	75 60	25 15																					2.50
	REGION 5																													
56	Rock Creek Diversion Dam, Rock Creek	1963 (1960)	City of Los Angeles	SWRCB	T	15	15	25	25	15 10	1.0 1.5	15 10	1.0 1.5	60 20	0.4 1.3	35 20	0.7 1.3	14 8	0.9 -0.8	14 8	0.9 0.8	22 17	0.4 0.9	18 8	0.5 0.4	0.9 0.5	0.9 0.5	0.9 0.7	0.7 0.3	2.49
49	Bridgeport Dam, East Walker River	1924 (1953)	Walker River Irrigation District	SWRCB	T	8	8	50	50									25 13		50 6		275 75		240 75		8.3 1.6	6.3 0.8	5.5 1.5	4.8 1.5	1.62
76	Henshaw Dam, San Luis Rey River	1923	Vista Irrigation District	SWRCB	T					4 2		180 12		54 12		3 2		3 1	0.8 0.5	6 1	<0.1 0.1	15 15	0.3 1.3	18 13	6.0 6.5					1.24
77	Santa Felicia Dam, Piru Creek	1955 (1955)	United Water Conservation District	SWRCB	T	10[17]	10	10	10	10 1	1.0 10.0	125 6	0.1 1.7	40 3	0.3 3.3	5 1	2.0 10.0	32 10	3.2 10.0	42 10	0.3 1.7	42 8	1.0 2.7	100 8	20 8	3.2 1.0	4.2 1.0	4.2 0.8	10.0 0.8	0.89
57	Pleasant Valley Dam, Owens River	1955 (1955)	City of Los Angeles	DFG	T	75	75	75	75	260 210	0.3 0.4	190 250	0.4 0.3	400 210	0.2 0.4	420 220	0.2 0.3	360 260	1.4 1.2	300 220	1.6 0.9	520 320	1.3 1.5	549 640	1.3 2.9	4.8 3.5	4.0 2.9	6.9 4.3	7.3 8.6	2.16
74	Casitas Dam, Coyote Creek	1959	USBR		SH					1 0		40 1		8 0		1 0		.3 0	0.3 —	.3 0	<0.1 —	.3 0	<0.1 —	.3 0	0.3 —					1.07
58	Sabrina Dam, MF Bishop Creek	1911	Southern California Edison	FPC SWRCB	T													13 12		20 26		20 15		50 40						1.25
83	Mojave Forks Reservoir, Mojave River	1971	USCOE, USBR	SWRCB	—					50 3		231 25		90 10		5 3		30	0.6	169	0.7	55	0.6	5	1.0					0.41
48	Lower Twin Lake, Robinson Creek	1888	S. H. Hanwell	SWRCB	T													8 5		12 0		65 90		100 40						1.98
85	Big Bear Lake, Bear Creek	1912	Big Bear Mutual Water Company	SWRCB	T													10 0		62 5		40 1		10 0						0.88

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						Nov	Feb	May	Aug	Nov Flow	Nov Index	Feb Flow	Feb Index	May Flow	May Index	Aug Flow	Aug Index	Nov Flow	Nov Index	Feb Flow	Feb Index	May Flow	May Index	Aug Flow	Aug Index	Nov	Feb	May	Aug	
82	Lake Morena, Cottonwood Creek	1894	Southern California Mountain Water Company	SWRCB	—																									0
80	Ivy May Dawson, unnamed spring		Ivy May Dawson	SWRCB	—	18																								0
84	El Capitan, San Diego River	1934	City of San Diego	SWRCB	—	19																								0

FOOTNOTES:

[1] A minimum flow of 2 cfs is maintained but no agreement between PG&E and the state regarding this flow was discovered.

[2] No streamflow agreements in license or permit.

[3] No streamflow requirements from April 1 through October 31.

[4] No streamflow requirements incorporated in permit. Marin MWD has release agreements with downstream riparian rights holders (no hydrographs).

[5] No streamflow agreements in license or permit.

[6] No streamflow agreements in license or permit.

[7] No streamflow agreements in license or permit.

[8] No streamflow agreements in license or permit.

[9] Minimum flows when the unimpaired runoff of the Kings River at Piedra for water year is 1,000,000 acre-feet or less.

[10] Minimum flows when the unimpaired runoff of the Kings River at Piedra for water year is 1,100,000 acre-feet or less.

[11] Minimum flows when the unimpaired runoff of the Kings River at Piedra for water year is 1,200,000 acre-feet or less.

[12] Minimum flows when the unimpaired runoff of the Kings River at Piedra for water year is 1,250,000 acre-feet or less.

[13] No release agreement.

[14] No release agreement.

[15] No release agreement.

[16] Proposed in conjunction with New Exchequer, was never constructed.

[17] The release agreement is for riparian requirements and for groundwater recharge purposes.

[18] Quail guzzler -- terms -- a watering device shall have the capacity of 20 gallons and shall be full at all times.

[19] No instream flow release agreement or permit. Streambed has been dry for 30 years.

* LEGEND FOR FISH:

KS King salmon (Oncorhynchus tshawytscha)
SS Silver salmon (Oncorhynchus kisutch)
SH Steelhead (Salmo gairdneri)
T Trout (Salmo gairdneri, clarki and trutta; Salvelinus fontinalis)
OGS Other game species

Except for Case Study Report Nos. 80, 82, 83 and 84 which have no fish, nongame species are ubiquitous.

ABBREVIATIONS:

FPC Federal Power Commission
SWRCB State Water Resources Control Board
USCOE U. S. Corps of Engineers
MWD Municipal Water District
FCWCD Flood Control and Water Conservation District
USBR U. S. Bureau of Reclamation
PG&E Pacific Gas and Electric Company
DWR Department of Water Resources
SMUD Sacramento Municipal Utility District
DFG Department of Fish and Game

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